

The TESLA Cryogenic Distribution-Boxes – a Design Study

A.Zolotov, B.Petersen DESY Hamburg Germany

Cryogenic distribution-boxes are needed in each TESLA cryogenic hall to branch the 2K, 5K and 80K helium circuits from the cold-boxes to the adjacent cryo-units.

In cryo-hall No.1 and cryo-hall No. 6 there will be additional branches to the injectors and the damping rings respectively.

The cryogenic distribution-boxes will be equipped with up to 80 cryogenic process valves (sizes from DN 20 to DN 250) and 2-3 counter flow heat-exchangers. In addition, three cold-compressor boxes will be attached to each distribution box. Cold compressors are needed to compress helium from 31 mbar to about 1 bar in the 2K helium circuits of the cryogenic units.

